

## ARCTIC SECURITY IN A WARMING WORLD

BY

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USAWC STRATEGY RESEARCH PROJECT

**ARCTIC SECURITY IN A WARMING WORLD**

by

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## **ABSTRACT**

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Engaging the United Nations and leveraging North American Aerospace Defense (NORAD) Command and U.S. Northern Command (NORTHCOM) capabilities will be critical to accomplishing U.S. goals and securing the northern coast of the continent. Challenges for the future include developing lasting stability through a robust international legal regime, creating effective command and coordination structures, and putting the means in place to implement the nation's policy objectives throughout the Arctic region. With focused efforts the nation can achieve all of its national policy objectives and be a leader in shaping the world's use and protection of the far north.





## ARCTIC SECURITY IN A WARMING WORLD

The rush for the Arctic is on! Commercial interests are leading the charge into the region and territorial disputes are heating up in the far north. The receding polar ice cap is opening new territory and presenting new security challenges for the United States. The sovereign nations of the Arctic must develop and implement appropriate security measures to manage the influx of interested parties and protect their nations.

This document endeavors to bring attention to the expanding security missions resulting from an accessible Arctic. The United States has a long history in the region, but today a convergence of global factors is “heating up” the Arctic, forcing nations to modify policies and rethink strategies. The U.S. took an important step in focusing strategic efforts in 2009, publishing a new Arctic Region Policy covering national security interests and goals for the far north. Engaging international partners and the United Nations (UN) as well as leveraging North America’s military capabilities will be critical to accomplishing these goals and securing the northern coast of the continent. Diplomatic efforts and an effective homeland defense posture will form the foundation for North America’s Arctic security and prosperity.

Challenges for the future include developing lasting stability through international agreements and a robust legal regime, creating effective command and coordination structures, and putting the means in place to implement the nation’s Arctic policy. A responsive security posture is essential as the United States’ interests and objectives evolve and adapt to the rapidly changing Arctic environment.

## Historical Background

The United States joined the evolution of the Arctic with the purchase of Alaska from Russia in 1867. Fur traders and whaling interests took root, but the purchase remained a folly until the discovery of gold along the Yukon River in northwestern Canada in 1897. Alaska played a minor role in the Second World War's Pacific Theater, but the Arctic came to the strategic security forefront in the early stages of the Cold War. The advent of intercontinental bombers and ballistic missiles, which could enter North America from the Soviet Union over the North Pole, put the far north front and center.

In response to the growing threat in the 1950s, the U.S. and Canada constructed a polar-looking, Distant Early Warning radar net (DEW line) along the length of the Alaskan and Canadian northern coasts. The United States and Canada formalized their continental security partnership by signing the North American Aerospace Defense Command (NORAD) agreement in 1958. Then, in 1959, Alaska became the 49<sup>th</sup> state, completing the makeup of nations bordering the Arctic Ocean: the United States, Canada, Russia, Norway and Denmark (Figure 1). The DEW line began upgrades and was renamed the North Warning System (NWS) in the late 1970s. Polar-orbiting satellite monitoring began in 1978, beginning the era of regional surveillance and accurate polar ice cap monitoring.

Since 1959, the U.S. and Canada have updated and strengthened the NORAD accord every four years. This longstanding partnership is a proven and flexible means to pursue shared goals and interests in the defense of North America.<sup>1</sup> As NORAD's capabilities have grown, its structure remains the foundation for security collaboration between the two nations. With a warming climate opening the Arctic seas, the missions

for NORAD and U.S. forces stationed in the far north need to adapt to ensure the protection of evolving, shared security interests.



Figure 1. The Arctic Region<sup>2</sup>

The sea routes of the far north have maintained their allure throughout history. The Northwest Passage (NWP) along the northern coast of North America, from Baffin Bay in the North Atlantic to the Bering Straits west of Alaska, and its sister route the Northeast Passage (NEP) along the northern coast of Europe and Asia from the Norwegian Sea to the Bering Strait, have been investigated as paths to riches for centuries. Explorers and shipping companies tried in vain to find a passable northern route, often with tragic results for ice-bound ships and crew.

In 1957 the U.S. Coast Guard icebreakers *Storis*, *Bramble* and *Spar* completed the first successful deep-water transit of the Northwest Passage. Researchers concluded there were two possible NWP routes for deep draft ships. The simplest was planned along the length of the Parry Channel, but multi-year ice blocked M'Clure Strait on the Channel's western edge. The three ships shifted to the second route, transiting the narrower Prince of Wales Strait around the southern edge of Banks Island. Another course south of Victoria Island, along mainland Canada, is farther south but the waterway is much shallower and littered with small islands. The two northern variants are the primary avenues for growth in international shipping.



Figure 2. Northwest Passage Routes<sup>3</sup>

## Catalysts for Today's Arctic Rush

A convergence of factors is rapidly expanding global interest in the Arctic. Climate change is the phenomenon transforming the icecap into sea, and warming the Arctic faster than any other area on earth. Historically, the light-colored ice and white snow reflected most of the solar energy striking it. As the ice pack begins to melt, it exposes the dark blue seawater, which absorbs much of the sun's energy and, in turn raises the seawater temperature. This added energy in the Arctic waters then boosts the melting process, creating a vicious cycle where open water causes the remaining ice to melt even faster.<sup>4</sup> The data gathered over the last several decades shows a dramatically increasing temperature trend and an equally clear trend of shrinking polar ice coverage.<sup>5</sup>

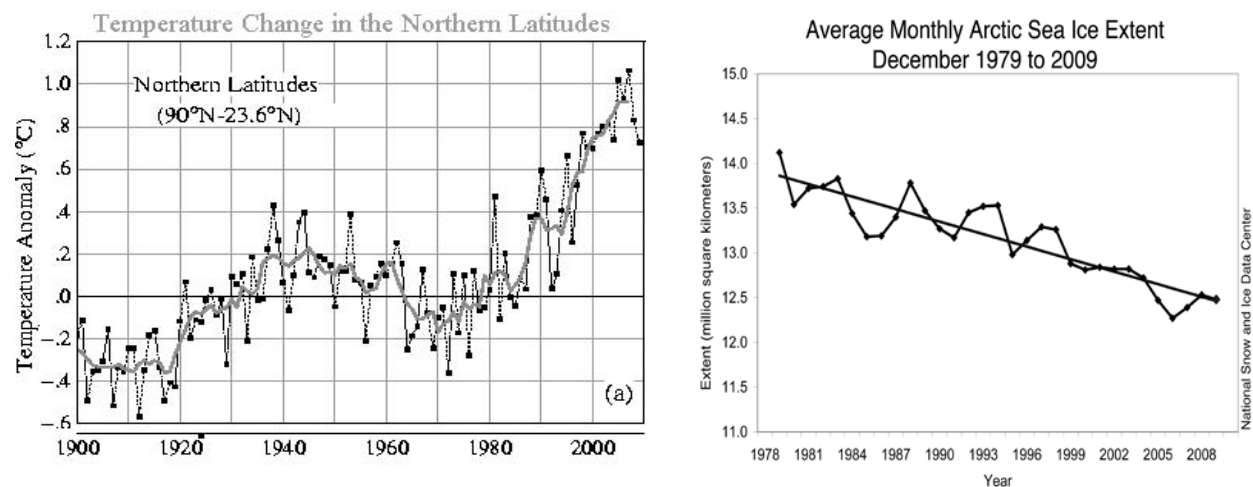


Figure 3. Temperature Change<sup>6</sup> and Ice Extent<sup>7</sup>

The second broad factor fueling the arctic rush is commercial opportunity. The opening of Arctic waters is a transformational event for the global economy, especially regarding the pattern of global shipping. Polar routes can cut shipping times (and therefore cost) nearly in half between the world's busiest ports. As an example,

Yokohama to Rotterdam is 5,000 miles, and up to 7 days, shorter using the NEP rather than traditional routes.<sup>8</sup> (Figure 4) Reduced transit time was the driving factor behind the latest milestone in trans-Arctic shipping. Two German cargo vessels made the first unaccompanied commercial shipping transit of the Arctic through the NEP last summer.<sup>9</sup>



Figure 4. Shipping Route Comparison<sup>10</sup>

The polar routes also transit waters along some of the world's most stable and secure countries. Troubled waters such as the pirate-infested Gulf of Aden, the disputed Strait of Malacca, and canal chokepoints have captured both media and global shipping companies' attention. As the northern routes open up and marine insurers recalculate the risks involved in these voyages, trans-Arctic shipping will become commercially advantageous and large scale traffic increases will commence.<sup>11</sup>

In addition to increased shipping, the untapped mining and fishing opportunities which receding ice provides will add to the exploitation of the Arctic as a venue rather than avenue. This potential for natural resource development is fostering battles over territorial sovereignty and economic exclusivity throughout the region. As climate

change affects water temperatures and creates new fisheries in the Arctic Ocean, it is drawing fishing vessels from around the world to unclaimed Arctic waters.

The final economic catalyst in the Arctic is the explosion of opportunities for tourism. This influx of large numbers of people has the potential to be the greatest threat to wildlife and the native Inuit people, and may pose the biggest threat to the fragile northern environment. These catalysts are forcing nations to create policies, commit to overarching legal regimes, and allocate resources in the Arctic.

### Policy and Political Landscape

Since the early days of European exploration, the Arctic has been a global common: a region not belonging to any country. The Arctic was never claimed, nor governed by any multinational norms or regulations because it was never expected to become navigable or the site of large scale commercial development.<sup>12</sup> While the North Pole remained surrounded by a solid cap of ice, this custom remained unchallenged.

The political landscape changed in the 20<sup>th</sup> century as the region began to become accessible. In 1973, Canada made the claim that its entire archipelago was internal, territorial water. The legislation used the straight baseline method to surround all of its Arctic islands, essentially forming a bubble of contiguous territory and inland water around the extent of Canada's Arctic islands.<sup>13</sup> Russia made similar claims covering the North East Passage and Russian Arctic islands. Russian regulations require all vessels wishing to use the NEP to give notification to the Russian authorities beforehand, submit an application for guiding (ice-breaking), and pay a fee to use the route.<sup>14</sup> The groundbreaking German crossing paid the fee but declined the escort.

The U.S. maintains the waterways are international straits, and thus open to unimpeded transit passage, rather than internal waters.<sup>15</sup> The U.S. advocates for an

international agreement for the Arctic passages similar to the U.N. brokered Strait of Magellan Accord. In the agreement with the maritime community, Chile and Argentina declared that although the narrow passage could legally be internal waters, the Strait is open to all vessels and free navigation guaranteed to the flags of all nations.<sup>16</sup> The Arctic passages need a similar international agreement to assure freedom of navigation within an international legal framework applicable to all nations.

The United Nations Convention on the Law of the Sea (UNCLOS) is just such a framework. First published in 1982, UNCLOS is the most overarching, international legal regime put forth to govern the use, restrictions, and sovereignty of the world's waters. It published conventions such as the 12-mile territorial waters limit and the 200-mile economic exclusion zone for all coastal nations. UNCLOS brought relief from conflicting rules, and navigation through narrow straits became based on agreed-to, international legal principles.<sup>17</sup>

UNCLOS Article 234 specifically covers the Arctic. It gives coastal states the right to adopt and enforce non-discriminatory laws and environmental regulations in their exclusive economic zones where ice coverage and particularly severe climate conditions cause exceptional hazards to navigation, and where pollution could cause major harm to the ecological balance.<sup>18</sup> UNCLOS' Arctic Council assists nations with setting policies to protect the environment and monitor the health of the ecosystem.

Under the provisions of UNCLOS Article 76, Arctic nations are petitioning to extend economic control beyond the standard 200 mile limit to the full extent of their continental shelves. Russia, whose Arctic continental shelf is the largest such shelf in the world (underlying almost half of the Arctic Ocean), is attempting to expand its



economic exclusion zone to encompass much of the as of yet unclaimed regions of the Arctic Ocean.<sup>19</sup> Norway, Denmark, and Canada are also working within Article 76 to request international recognition of expanded economic exclusion zones to the greater extents of their Arctic continental shelves.<sup>20</sup>



Figure 5. 200-mile EEZ and Disputed Zones in the Arctic<sup>21</sup>

Since its first publication in 1982, 160 nations worldwide, all of the Arctic nations except one, and every industrialized nation except one have signed up to the U.N. Convention on the Law Of the Sea.<sup>22</sup> They have agreed to further its purpose of creating a comprehensive regime of law and order in the world's oceans and seas, and establishing rules governing all uses of the oceans and their resources.<sup>23</sup> For reasons explored later, the United States is the hold-out nation.

## United States Arctic Policy

As the Arctic rush of commercial interests and territorial claims gained strength over the last decade, the United States put forth little formal policy attempting to influence the region, further American interests or enhance security. The 2008 National Defense Strategy (NDS) mentions the Arctic only once in reference to Russia's expanding claims. It does however, state the requirement for the U.S. to secure global commons and maintain freedom of access to global markets.<sup>24</sup> The latest National Military Strategy (NMS) sets protection of the homeland as its top priority and emphasizes securing the space, air, land, and sea territorial approaches against attacks.<sup>25</sup> The NMS fails, however, to specify tasks unique to the Arctic.

In the last year, much-needed strategic guidance has emerged. The capstone document is the new U.S. Arctic Region Policy, officially known as National Security Presidential Directive 66 (NSPD-66). The document states the U.S. has fundamental national interests in the Arctic and sets out key regional objectives for the United States. These include meeting homeland security needs relevant to the Arctic, protecting the Arctic environment, conserving its biological resources, and strengthening institutions for cooperation among Arctic nations.<sup>26</sup>

NSPD-66 states the U.S. prefers to operate in conjunction with other nations to further a broad set of interests, but must be prepared to operate independently if the situation dictates. It proclaims the U.S. position that the Northwest and Northeast Passages are international straits, and the United States will exercise authority over lawful claims of Arctic sovereignty and economic exclusion.<sup>27</sup> The Policy asserts the need for a more proactive and influential presence in the Arctic in order to maintain freedom of the seas, and it assumes a significant expansion of human interest and

activity. NSPD-66 directs continued development of Arctic capabilities to project a sovereign presence, maintain greater maritime domain awareness, protect the environment, and enforce U.S. and international laws and agreements.<sup>28</sup>

The Arctic Policy specifically calls for the Departments of Defense and Homeland Security to provide the functions of vessel traffic-monitoring, search and rescue, navigational aid maintenance, and iceberg warning to promote safety. It also calls for implementing effective shipping standards to protect the fragile northern environment and developing these capabilities within an environmentally sound infrastructure base.<sup>29</sup>

The 2009 U.S. Arctic Policy also explicitly requests Senate ratification of UNCLOS. The policy argues that ratification is one of the most effective ways to influence the outcomes of Arctic disputes.<sup>30</sup>

The 2010 Quadrennial Defense Review (QDR) took note of NSPD-66 and focuses on the Arctic in several ways. It recognizes the Arctic's role in homeland defense and the need to improve awareness of the northern approaches to the continent.<sup>31</sup> The QDR calls for increased cooperation with NATO and Canada, along with engagement of Russia as the opening of the Arctic waters presents an opportunity to work collaboratively to promote stability and security while protecting the environment. The QDR also calls for interagency partnerships to "address gaps in Arctic communications, domain awareness, search and rescue, environmental observation, and forecasting capabilities to support both current and future operations."<sup>32</sup> Finally, the QDR backs the accession of the U.S. into UNCLOS.<sup>33</sup>

#### Current Arctic Defense Posture

The Unified Command Plan (UCP) is the foundation for America's global security posture. The inherently joint Combatant Command (COCOM) construct is at its heart.

Unfortunately for U.S. interests in the Arctic, the UCP draws the boundaries of the geographic combatant commands with a very equatorial focus, making unity of effort in the Arctic a significant challenge.<sup>34</sup> Three regional COCOMs meet at the North Pole, U.S. Northern command (NORTHCOM), U.S. European Command (EUCOM), and U.S. Pacific Command (PACOM).<sup>35</sup> NORTHCOM's area stretches from Alaska eastward to the west coast of Greenland, which is split so its east coast falls under EUCOM. The UCP arbitrarily divides the Arctic Ocean north of Russia at 100°E placing the Barents and Kara Seas in EUCOM's area of responsibility, while the East Siberian and Laptev Seas are in PACOM's. Alaska's special status as part of both Northern and Pacific Commands for various missions adds to the complexity of many Arctic actions.

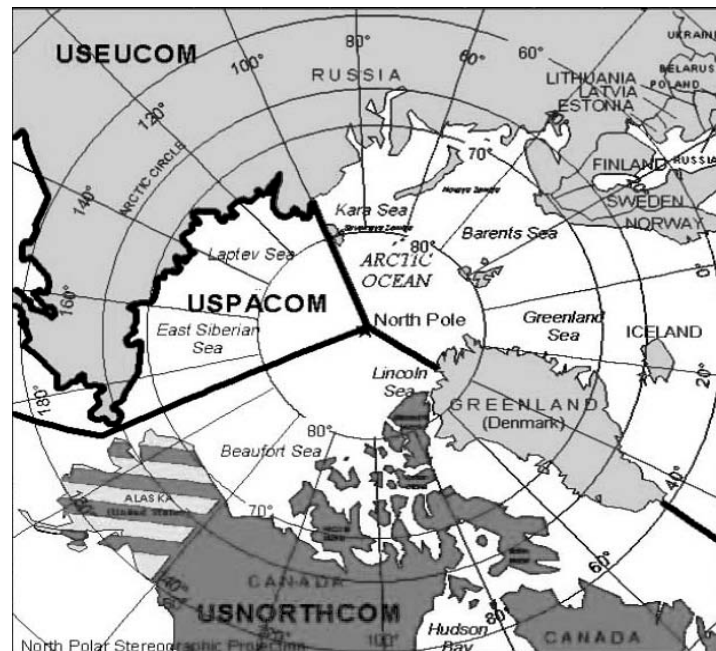


Figure 6. Polar View of Combatant Command Boundaries<sup>36</sup>

On the positive side, the UCP maintains the close connection between NORAD and NORTHCOM. It dual-hats the commander of NORTHCOM as the NORAD

commander, and integrates their staffs. NORTHCOM, with PACOM's concurrence and the support of NORAD, created Joint Task Force-Alaska (JTF-AK) to deal with some of the Arctic seams. Its mission is to coordinate with other government agencies to deter, detect, prevent and defeat threats within Alaska in order to protect U.S. territory, citizens, and interests. JTF-AK plans and, if directed, integrates the full spectrum of homeland defense efforts within Alaska.<sup>37</sup>

Similarly, NORAD has three regional operation centers, the two northern sectors—Canadian and Alaskan NORAD regions—are responsible for Arctic defense missions. The 2006 NORAD Agreement renewal significantly expanded the command's tasks, adding maritime warning of the continent's sea approaches to its aerospace defense responsibilities. This change directs NORAD to maintain continuous awareness and understanding of the activities conducted in U.S. and Canadian maritime approaches, maritime territorial areas and inland waterways.<sup>38</sup> The new tasking for enhanced maritime awareness of the approaches to North America requires the ability to look east, west, and increasingly to the waters of the north.

The defense posture in the Arctic is far from the military's alone. NORAD and NORTHCOM partner closely with the Coast Guards of Canada and the U.S. as well as the broader homeland security and intelligence agencies in both countries.<sup>39</sup> The U.S. Coast Guard has the lead in ensuring Arctic maritime mobility, territorial security, and protecting economic interests. Coast Guard Region-17 (Alaska) enforces vessel standards, fishing regulations, protects fish havens and patrols economic exclusion zones with the support of JTF-AK. The U.S. Coast Guard is also on point for conducting coalition search and rescue exercises and missions in the far north with the forces of

the other Arctic Ocean nations.<sup>40</sup> Ice-bound cargo ships, disabled fishing vessels, and stranded research expeditions keep the responsible agencies busy. The most challenging mission for search and rescue however, may lie with expanded Arctic tourism. A distressed tourist vessel in the hostile conditions and remote regions of the Arctic could quickly develop into a disaster.<sup>41</sup>

The U.S. Coast Guard is aggressively posturing for future missions in the Arctic. Beginning in 2008, Region-17 began adjusting its far north posture and presence. C-130 aircraft began summer deployments to Nome on the western coast of Alaska to enhance Arctic maritime domain awareness and provide “eyes-on” capabilities above the Arctic Circle. The Coast Guard Cutter *Polar Sea*, joined the Cutter *Healy* in Arctic waters, essentially committing all of the U.S.’ heavy icebreaker fleet to the region. Also in 2008, tailored force packages of small boats and civil support personnel deployed to Barrow (the northernmost Alaska community) and Prudhoe Bay to conduct training missions, liaison with local/tribal communities, and conduct security exercises in the Arctic littorals.<sup>42</sup> These exercises involve the Canadian military and Coast Guard, who are on a similar path to improving their Arctic posture. In 2008, Canada began to improve and expand the deepwater port facilities of a former zinc mine at Nanisivik at the north end of Baffin Island, and establish a cold weather training base at Resolute on the north side of the Parry Channel.<sup>43</sup> (Figure 2)

### The Way Ahead

Arguments presented to this point indicate the trend in Arctic climate change will continue and commercial interests will persist in testing the limits of the region’s travel routes and resources. Arctic nations will continue to press for the expansion of their territorial boundaries and the U.S. will retain fundamental national security interests in

the far north. In order for the United States to further its Arctic policy goals and fulfill growing security requirements, it must endeavor to enhance the Arctic's international legal framework to improve stability in the region, create a more effective Arctic command and coordination structure, and put the means in place to achieve regional policy objectives.

### Creating Stability in the Arctic

Stability is the overarching pillar for the United States in its efforts to further national security interests in the Arctic. The first step toward this goal is the establishment of operating rules under a recognized legal framework. All nations, non-governmental organizations, commercial interests, and citizens of the far north must agree to abide by the legal regime and recognize its authority to govern commons and arbitrate national claims. The cornerstone of such a construct is the United Nations Convention on the Law of the Sea.

Every administration since President Ford (who helped establish UNCLOS) has petitioned the U.S. Senate to ratify the agreement. The Senate continues to have concerns about anti-U.S. environmental interests gaining additional legal leverage, the requirement for the U.S. to submit to UNCLOS' international tribunal rulings, the sharing of high seas mining operations, and fear of ultimately diminishing the capacity for legal unilateral actions.<sup>44</sup> The Senate Foreign Relations Committee has recommended ratification of UNCLOS several times, most recently at the end of 2007. Due to election year, anti-globalization politics in early 2008 however, UNCLOS never made it to the full Senate for a ratification vote.<sup>45</sup> The Senators have valid concerns, but in practice, many are challenges the U.S. faces even without becoming a member of the convention.

The lack of confirmation meanwhile, keeps the U.S. from a seat at the table to discuss issues, resolve conflicts and influence the international legal regime.

Additionally, without the United States the overall international validity of the UNCLOS construct is a less-binding legal regime for all.<sup>46</sup> It is this forum that offers the United States the greatest opportunity to influence the world's utilization of the Arctic in its favor.<sup>47</sup> The U.S. needs to expeditiously ratify UNCLOS and begin aggressively participating in its processes as a member, rather than working around its margins.

Assessing into UNCLOS does not, and should not preclude the continuation of summits of equity nations and bilateral agreements in the quest for stability. As a prime example, the Canadian Defense & Foreign Affairs Institute is proposing the creation of a cooperative, treaty-based North West Passage Authority (NWP) that will allow Canada and the U.S. to manage the NWP jointly and negotiate resolutions to conflicting claims, just as they did in the Great Lakes and St. Lawrence Seaway in the past.<sup>48</sup> NWP negotiations would get to the heart of the United States and Canada's most significant stability issue in the Arctic: whether the Northwest Passage is an internal waterway or an international strait.

Canada claims the NWP is an internal waterway owned by Canada where transiting vessels have only the right of innocent passage, where vessels must notify the host country of intentions and ask permission for passage.<sup>49</sup> A Canadian Senate panel is urging even more stringent rules on vessel types allowed within its archipelago and requiring vessels to register all voyages, submit to ship tracking, and provide position reporting.<sup>50</sup>



The United States and European Union (E.U.) argue the NWP is an international strait connecting two oceans and open to the unimpeded transit of all vessels, without permission or duty to the bordering country. The U.S. reaffirms this stance in NSPD-66 stating that preserving freedom of navigation in the region is a critical tenant of U.S. policy.<sup>51</sup> This however, is the minority view around the globe.

The first reason is a number of other countries would like to expand their territorial claims to encompass groups of islands and remove the area from the global commons (China and the Philippines' claims to the Spratly Islands in the South China Sea are a good example). A second challenge: It is not possible to transit the NWP without approaching within 12 nautical miles of Canadian land. Under UNCLOS those areas are internal waters unless a special agreement is published, similar to the Magellan Straits, allowing unrestricted traffic to flow through them. The third hurdle for the U.S is an international strait must be routinely used by transiting vessels. For the NWP, this is not yet the case, and the international community is hesitant to classify the waters based on expectations.<sup>52</sup>

In the post-9/11 world, the U.S. should not try to deny Canada at least some measure of control. An NWPA-type negotiated agreement could allow both international transit and enable Canada to better secure this avenue of approach to the continent vis-à-vis the threats from violent extremists, illegal immigrants or drug traffickers. The NWPA proposal poses an opportunity to enable the two countries to negotiate a joint regime for the Northwest Passage, and create a framework that will accommodate key foreign policy goals in both Ottawa and Washington.<sup>53</sup>

Another requirement for creating stability in the Arctic is to resolve disagreements over territorial boundaries. All five Arctic Ocean bordering nations have territorial claim disputes with at least one of the other nations. The U.S. and Canada disagree on the offshore border between Alaska and the Yukon. The U.S. claims the divide should be based on the accepted custom of equidistance, where the boundary extends from the shoreline equally distant from the nearest points on the bordering shores.<sup>54</sup> This creates a line pointing slightly northeast from the border of Alaska and Yukon. Canada cites the 1825 treaty between Russia and Great Britain that established the boundary between the two nations as the 141st meridian.<sup>55</sup> This extends the land border straight to the North Pole and creates a disputed triangle of continental shelf. Offshore fishing, mineral and oil rights are at stake in this and the other Arctic territorial water disagreements. (Figure 5)

The U.S. has limited options for solving this dispute. One alternative is to use the same bilateral framework proposed by Canada to negotiate a Northwest Passage Authority and apply it to a treaty for this disagreement. Until ratification of UNCLOS, the U.S. must fully engage in this and other available venues to enable a more stable north in North America, and watch from the sidelines as the UNCLOS nations decide the rest.

#### 21<sup>st</sup> Century Arctic Military Structure

The United States needs unity of effort and shared purpose in carrying out Arctic security policy. This unity should include agencies of the U.S and partner governments, especially Canada. The U.S. must create a structure capable of furthering national interests and efficiently utilizing all available Arctic security resources. The most important partnerships for the military will be with the U.S. and Canadian Coast Guards, in close coordination with the Canadian military.

The first task is to update the Unified Command Plan (UCP) to enable the unique challenges of the Arctic to come under a single chain of command. The UCP notes that when COCOMs have requirements to engage in a shared area, they will coordinate and collectively approve activities, making agility and unity of effort in the Arctic significant challenges.<sup>56</sup> The Arctic should be the purview of the combined NORAD-NORTHCOM headquarters, rather than shared by three COCOMs. This solution leverages the greatest number of existing Arctic command relationships and ongoing missions in the region.<sup>57</sup> EUCOM has a close working relationship with NATO; but NORAD also has ties to NATO and retains a polar focus with northern European nations. Bringing Alaska completely under NORTHCOM's control also eliminates the seam created by its dual status under PACOM and puts all of Alaska's homeland security missions under a single commander.

NORTHCOM's new area of responsibility should cover all of Alaska and the Pacific Ocean within Alaska's economic exclusion zone, as well as all of the waters of the Arctic Ocean. Issues concerning the NEP along the waters of Russia, Norway and Greenland within the Arctic Ocean should also be NORTHCOM's even though the NEP traverses waters claimed as internal. While the nations themselves remain in EUCOM, moving all northern maritime issues to NORTHCOM enables strategic continuity throughout the Arctic Ocean. This will significantly improve the ability of the United States to engage Russia, as the nation with the preponderance of forces in the region, with a more holistic approach to Arctic security issues. Russia can work with a single responsible COCOM rather than three to resolve the broad security issues of the far

north. Combatant Command realignment will increase efficiency and the probability of furthering national objectives in the greater Arctic region.

The UCP also recommends that when missions significantly overlap boundaries (of nations, COCOMs, or agencies) the lead COCOM should form a task force. This is an excellent idea for the Arctic.

U.S. Northern Command, because of the complexities of its homeland area of responsibility, has set up a number of joint task forces (JTFs). Some are regional like JTF-Alaska, and some functional like JTF Civil Support. JTF National Capital Region (JTF-NCR) is probably the most diverse, coordinating its defense responsibilities with Federal, State and District partners preparing to respond cooperatively when needed for homeland defense or civil support missions in the Capital.<sup>58</sup>

NORAD-NORTHCOM needs to use this model to create a Combined Task Force for the Arctic (CTF-A). This organization will play a central role in achieving the broad U.S. and Canadian security objectives in the far north. CTF-A would take point as the command center for the varied and growing security missions across the northern border of North America and around the Arctic Ocean. The U.S. and Canada need the CTF-A structure to maximize the efficiency and effectiveness of their Arctic capabilities in the vast, underdeveloped, and inhospitable environment of the Arctic. CTF-A will streamline command, control, and coordination of land, sea, air and space assets for security missions in the Arctic, and will efficiently utilize resources to maximize the effectiveness of Arctic capabilities. A NORAD-NORTHCOM task force is the best way for the two nations to meet their shared Arctic mission demands.

CTF-A would certainly interface with the two NORAD northern sectors and work closely with NORTHCOM's JTF-Alaska. CTF-A would incorporate diverse agencies, similar to JTF-NCR, and be based on the structures of NORAD-NORTHCOM's subordinate headquarters. Its leadership structure would provide a bridge for the two nations as well, with commanders alternating between U.S. and Canadian officers. The deputies hailing from the opposite nation's Coast Guard. Personnel from agencies such as U.S. Homeland Security and Canadian Ministry of Public Safety and Emergency Preparedness should fill CTF-A positions, not simply be liaison officers. Representatives of the native Inuit people should also be a part of the task force, providing their unique interests, perspective, and expertise on the northern latitudes.<sup>59</sup>

CTF-A's mission statement should include persistent awareness of the Arctic's lands and seas, patrol of the commercial sea lanes, enforcement of commercial and environmental regulations, and warning of any illegal maritime approach the continent's northern coast. Its mission would also be to enforce protection of the native peoples' natural resources, and ensure compliance with international environmental, fishing, mining, and drilling regulations and conventions.

CTF-A would ensure the U.S. and Canada continue to conduct joint operations and security missions together in the Arctic as they negotiate political disagreements elsewhere. The combined task force will provide a backdrop of common missions and shared purpose from which to work through the more contentious security issues surrounding the far north. CTF-A is the best structure for applying scarce resources to expanding missions in the changing environment, under a single command responsible for Arctic security.

## Capabilities Needed to Fulfill Arctic Security Missions

The far north is in need of technological and material advancements, starting with surveillance capabilities. The semi-autonomous North Warning System (NWS) remains in place roughly along 68°N and the Labrador coast. (Figure 7) The sites were positioned to see approaching aircraft and missiles, but are in prime locations for monitoring the sea as well. The radar upgrades installed in the early 1980s were a significant improvement over original DEW line equipment, but these are aging and warrant modernization and further automation. The platforms are the logical place to begin housing sea surveillance radars, navigational aid monitors, and distress call triangulation capabilities to supplement the limited satellite tracking in the far north. Upgrades must enhance the ability to monitor the sea as well as the air and space approaches to the continent.

Figure 7. North Warning System Sites<sup>60</sup>

A second critical material need is to expand the Arctic's satellite coverage. Polar awareness is not as easy as parking a weather, communications, or surveillance

satellite over a particular area along the equator and leaving it there. Satellites cannot “park” over the poles, and thus require a constellation of satellites to maintain an uninterrupted watch of the region. As the Arctic’s use by multiple entities grows exponentially, the need for enhanced satellite communications, ocean vessel and ice tracking, as well as environmental monitoring and weather forecasting in the far north will grow.

The U.S. Department of Defense (DOD), National Aeronautics and Space Administration (NASA), and National Oceanic and Atmospheric Administration (NOAA) must work together to ensure the growth of future space-based capabilities for the Arctic. NOAA launched a new polar-orbiting environmental satellite in February 2009 to support climate monitoring, and weather and ocean forecasting. In addition, it carries an emergency beacon location payload to assist in search and rescue missions.<sup>61</sup> Canada also launched a polar orbiting satellite in 2009 to add to its Arctic communication and environmental monitoring capabilities. The NOAA and Canadian satellites are integrated with the European Organization for the Exploitation of Meteorological Satellites to enhance overall weather satellite coverage and increase forecast fidelity<sup>62</sup>. This partnership greatly enhances U.S., Canadian, and European on-orbit Arctic environmental surveillance capabilities.

The United States’ National Polar-orbiting Operational Environmental Satellite System (NPOESS), a tri-agency venture of the DOD, NASA, and NOAA has not been as successful. The FY2011 Presidential budget proposed another major restructuring of NPOESS, as it is behind schedule, over budget, and underperforming in its effort to merge U.S. polar defense and Arctic civil weather satellite programs.<sup>63</sup> This

announcement effectively ends the tri-agency effort. The program's demise will necessitate the continued reliance on international partnerships for full operational satellite coverage of the Arctic for the foreseeable future.<sup>64</sup> This does not eliminate the need for the agencies involved to incorporate the requirements for the emerging Arctic missions into their individual programs. The DOD, and especially the Air Force, must ensure the broad spectrum of polar missions is represented on any future polar-orbiting satellite systems.

The final capability improvement required for Arctic operations is polar icebreaking capabilities and deep water port facilities to house them in the Arctic Ocean. There are no significant port facilities along the north coast of Alaska, and Canada's best northern port is Churchill, Manitoba in Hudson Bay. Canada is investing in the deep water port at Nanisivik as a forward operating base, but the United States has yet to plan to seriously expand its maritime basing in the Arctic Ocean.

This lack of all-season naval capabilities is the largest gap in implementing any U.S. Arctic policy or strategy. Ice-breaking ships are the key to operations in the waters of the Arctic Ocean. The U.S. Navy has no icebreakers in its fleet. The Navy divested all icebreaking missions to the Coast Guard in the 1960s and has no plans to recapture the vessels or their many missions. Scott Borgerson, former Lieutenant Commander of the Coast Guard, lamented in 2008 that the U.S. had forfeited its ability to assert sovereignty in the arctic by allowing its icebreaker fleet to atrophy.<sup>65</sup> The United States' Navy is larger than the next 17 navies of the world combined, and maintains the only global Coast Guard, but the U.S. has only three polar-capable icebreakers. The *Healy* is the newest, and the only icebreaker routinely operating in the Arctic. The sister ships



*Polar Sea* and *Polar Star* are past their service lives, with *Star* operational only one of the past five years. The Joint Chiefs of Staff recently endorsed a fresh push by the Coast Guard to increase the U.S.' ability to access and control its Arctic waters, but no new icebreakers are in the works.<sup>66</sup>

Canada is doing little better, but is attempting to program heavy icebreakers into its budget. The *John G. Diefenbaker* is under construction and will replace the *Louis S. St-Laurent*, the pride of Canada's icebreaking fleet for a generation. *Diefenbaker* will be Canada's first icebreaker capable of sustained operations throughout the Canadian Archipelago, able to break ice for commercial vessels, and provide a stable platform for scientific research in the high Arctic, but it will not be in service until 2017.<sup>67</sup> By comparison, Russia has 18 heavy icebreakers, seven of which are nuclear powered; Denmark, Norway, and Sweden each have one, and even the Japanese and Chinese navies have an icebreaker for research and anticipation of greater Arctic trade route operations.<sup>68</sup> Several international shipping companies are also contracting to build their own fleet of icebreakers.

The ability to negotiate the icy waters of the Arctic Ocean is the cornerstone for accomplishing the nation's security missions and political objectives. At this point the nations of North America are lacking. The U.S. and Canada must continue to work together, and revitalize their icebreaking fleets to accomplish their mutually beneficial security objectives along the Northwest Passage and greater Arctic Ocean.

### Summary and Conclusion

The Arctic is changing. The native people know it, scientific data shows it, and commercial interests are preparing for it. Security concerns are growing, and missions are expanding in the most rapidly shifting region on Earth. New policy objectives and

mounting national interests call for a re-prioritization of the Arctic within U.S. national security efforts.

The United States must ratify the United Nations' Convention on the Law of the Sea, and work to further its territorial interests. It must protect the environmental and native people, and create common legal regimes for sea lane transit. Committing to a binding international agreement always has tradeoffs, but the gains in this case far outweigh the drawbacks.

The U.S. must structure its efforts in the Arctic in the most advantageous way possible. The region should be under one combatant command to enhance efficiency and unity of effort. NORTHCOM is the logical choice for that command, and it should give the point position for Arctic stability to a combined task force created specifically for the challenges of the region.

Finally, the U.S. must reprioritize the emphasis it places on developing capabilities in the Arctic. It must work with Canada to upgrade the North Warning System radars and start now on the road to produce sufficient polar orbiting satellites to maintain a persistent watch over the region. The U.S. must also begin new icebreaker construction to replace its aging fleet if it intends to remain an Arctic power.

The United States is behind in the Arctic because, as U.S. Coast Guard Admiral Gene Brooks noted, "Many Americans have no clue the U.S. is an Arctic nation with vital national interests in the region."<sup>69</sup> Such ignorance can carry a heavy price, but with focused effort the nation can achieve all of its national policy objectives and be a leader in shaping the world's use and protection of the far north. This needs to happen now, as the age of the Arctic is upon us.

## Endnotes

<sup>1</sup> Agreement Between the Government of the United States of America and the Government of Canada on the North American Aerospace Defense Command (Ottawa, Ontario, 28 Apr 2006), 2.

<sup>2</sup> "Arctic Region," [http://www.lib.utexas.edu/maps/islands\\_oceans\\_poles/arctic\\_region\\_pol\\_2007.pdf](http://www.lib.utexas.edu/maps/islands_oceans_poles/arctic_region_pol_2007.pdf), (accessed December 10, 2009).

<sup>3</sup> Map based on: "Northwest Passage - Map of Arctic Sea Ice: Global Warming is Opening Canada's Arctic" <http://geology.com/articles/northwest-passage.shtml> (accessed December 20, 2009)

<sup>4</sup> Alan L. Kollien, *Toward an Arctic Strategy*, Strategy Research Project (Carlisle Barracks, PA: U.S. Army War College, February 17, 2009) 3.

<sup>5</sup> Scott G. Borgerson, "Arctic Meltdown: the Economic and Security Implications of Global Warming", *Foreign Affairs*, Vol 87, Iss 2, (April 2008): 63.

<sup>6</sup> Northern latitudes temperature graph taken from: "Annual Mean Temperature Change for Three Latitude Bands," January 21, 2010, <http://data.giss.nasa.gov/gistemp/graphs/> (accessed February 21, 2010).

<sup>7</sup> National Snow and Ice Data Center graph, modified to show 2008 data. The original graph was pulled from [http://nsidc.org/news/press/2007\\_seaiceminimum/20071001\\_pressrelease.html](http://nsidc.org/news/press/2007_seaiceminimum/20071001_pressrelease.html) (accessed January 20, 2010).

<sup>8</sup> David Gove, "Arctic Melt: reopening a Naval Frontier," *Proceedings Magazine*, Vol. 135/2/1, February 2009, [http://www.usni.org/magazines/proceedings/story.asp?STORY\\_ID=1762](http://www.usni.org/magazines/proceedings/story.asp?STORY_ID=1762) (accessed February 26, 2010).

<sup>9</sup> Joshua E. Keating, "Missing Stories of 2009," *Washington Post*, November 29, 2009.

<sup>10</sup> Hugo Ahlenius, UNEP/GRID-Arendal <http://maps.grida.no/go/graphic/northern-sea-route-and-the-northwest-passage-compared-with-currently-used-shipping-routes> (accessed February 22, 2010).

<sup>11</sup> Borgerson, "Arctic Meltdown," 65.

<sup>12</sup> *Ibid.*, 64.

<sup>13</sup> A significant basis for this claim was the historic occupation of the islands and the frozen waters surrounding them by the native Inuit tribes. The expanding open water and shrinking of an inhabitable ice cap within the Canadian Arctic is limiting Inuit occupation of the sea and weakening this political claim. Elizabeth Elliot-Meisel, "Politics, Pride, and Precedent: The United States and Canada in the Northwest Passage," *Ocean Development & International Law*, 40:2, (April 1, 2009): 211.

<sup>14</sup> Ragner, *The Northern Sea Route*, 119.

<sup>15</sup> An 'international strait' is any strait used for international navigation between one part of the high seas and another part of the high seas where all ships enjoy the right of free transit passage (continuous and expeditious travel) from one open ocean to another. United Nations Division for Ocean Affairs and the Law of the Sea, "United Nations Convention on the Law of the Sea," December 10, 1982, [http://www.un.org/Depts/los/convention\\_agreements/texts/unclos/part3.htm](http://www.un.org/Depts/los/convention_agreements/texts/unclos/part3.htm) (accessed September 20, 2009) part III, Sec 1.

<sup>16</sup> U.S. Department of Defense, *Maritime Claims Reference Manuel*, DOD 2005.1-M (Washington, DC: U.S. Department of Defense, Jun 2005), 33.

<sup>17</sup> U.N. Convention on the Law of the Sea, part II.

<sup>18</sup> *Ibid.*, Article 234.

<sup>19</sup> McKenzie Funk and Jane Vessels, "Arctic Land Grab," *National Geographic* vol. 215 no. 5 (March 2009): 110 & special map supplement.

<sup>20</sup> Gove, "Arctic Melt."

<sup>21</sup> University of Texas Library Maps, [http://www.lib.utexas.edu/maps/islands\\_oceans\\_poles/arctic\\_russian\\_claims\\_2008.jpg](http://www.lib.utexas.edu/maps/islands_oceans_poles/arctic_russian_claims_2008.jpg) (accessed January 12, 2010).

<sup>22</sup> Gove, "Arctic Melt."

<sup>23</sup> U.N. Convention on the Law of the Sea, preamble.

<sup>24</sup> Robert M. Gates, *National Defense Strategy* (Washington, DC: Department of Defense, June 2008), 4.

<sup>25</sup> Richard B. Meyers, *National Military Strategy of the United States: A Strategy for Today; A Vision for Tomorrow* (Washington, DC: Joint Chiefs of Staff, 2004), 2.

<sup>26</sup> George W. Bush, *Arctic Region Policy*, National Security Presidential Directive/NSDP- 66 (Washington, DC: The White House, January 9, 2009), Sec III-A.

<sup>27</sup> *Ibid.*, Sec III-B.

<sup>28</sup> *Ibid.*

<sup>29</sup> *Ibid.*, Sec III-F.

<sup>30</sup> *Ibid.*, Sec III-C. Dispute examples include: continental shelf and economic exclusion zone boundary claims, internal water versus international waterway disputes, and establishing/enforcing fishing and mining regulatory regimes.

<sup>31</sup> Robert M. Gates, *Quadrennial Defense Review Report* (Washington, DC: Department of Defense, February 2010), 19.

<sup>32</sup> *Ibid.*, 86.

<sup>33</sup> *Ibid.*, 57.

<sup>34</sup> Kollien, *Toward an Arctic Strategy*, 18.

<sup>35</sup> The United States established U.S. Northern Command (NORTHCOM) in October 2002 as a new geographic combatant command for the homeland in a defense restructuring spurred by the terrorist attacks of September 2001. NORTHCOM shares a headquarters with NORAD in Colorado Springs, Colorado. They have a complimentary homeland defense mission and each have their own subordinate structures to deal with particular mission areas. George W. Bush, *Unified Command Plan* (Washington, DC: The White House, December 17, 2008), 12.

<sup>36</sup> Ibid., TAB.

<sup>37</sup> In coordination with a lead Federal agency, JTF-AK also provides defense support to civil authorities for crisis response and consequence management. *United States Northern Command homepage*, <http://www.northcom.mil/About/index.html#JTFAK> (accessed December 21, 2009).

<sup>38</sup> *North American Aerospace Defense Command homepage: About*, <http://www.norad.mil/about/index.html> (accessed December 21, 2009).

<sup>39</sup> NORAD Agreement, 4.

<sup>40</sup> *United States Coast Guard District 17 homepage: missions*, <http://www.uscg.mil/top/missions/> (Accessed February 18, 2010).

<sup>41</sup> Borgerson, "Arctic Meltdown," 66. In 2009, over 4,000 tourists traveled the high Arctic along Greenland's coast and within the Canadian archipelago.

<sup>42</sup> *USCG District 17 Homepage* (accessed February 20, 2010).

<sup>43</sup> CBC News, "Harper announces northern deep-sea port, training site," August 11, 2007, <http://www.cbc.ca/canada/story/2007/08/10/port-north.html> (accessed February 21, 2010).

<sup>44</sup> Jeane J. Kirkpatrick, "Testimony before the Senate Armed Services Committee," April 8, 2004, <http://armed-services.senate.gov/statemnt/2004/april/kirkpatrick.pdf> (accessed February 10, 2010).

<sup>45</sup> Thomas R. McCarthy, Jr., *Global Warming Threatens National Interests in the Arctic*, Strategy Research Project (Carlisle Barracks, PA: U.S. Army war College, February 17, 2009) 20.

<sup>46</sup> As an example, in 2008, the U.S. produced a resolution to stop the expansion of commercial fishing throughout the Arctic Ocean until the international community could develop a comprehensive science-based management plan. The resolution carried little weight with other nations and fueled the debate on the extent of U.S. exclusionary waters. The State Department is attempting to engage international forums such as the Arctic Council with little effect. As a non-member country, the motion carries less weight and although the measure has limited new fishing near Alaska, boats searching for more lucrative resources throughout the far north continue to populate the Arctic. Kollien, *Toward an Arctic Strategy*, 7.

<sup>47</sup> Ibid., 11.

<sup>48</sup> Brian Flemming, *Canada-U.S. Relations in the Arctic: A Neighbourly Proposal* (Calgary, Alberta: Canadian Defence & Foreign Affairs Institute, December 2008), 1.

<sup>49</sup> U.N. Convention on the Law of the Sea, Article 37. In internal waters there is no loitering, travel must be expeditious and submarines must transit on the surface and fly their nation's flag.

<sup>50</sup> The panel argues this will help prevent pollution, deter terrorism and enhance search and rescue efforts when needed. Randy Boswell, "Ottawa sets new rules for ships in the Arctic," *The Province (Vancouver, British Columbia)*, February 28, 2010.

<sup>51</sup> Bush, *Arctic Region Policy*, Sec III-A.

<sup>52</sup> U.N. Convention on the Law of the Sea, Article 37.

<sup>53</sup> Flemming, *A Neighbourly Proposal*, 2.

<sup>54</sup> Robert Dufresne, *Controversial Canadian Claims over Arctic Waters and Maritime Zones*, Canadian Parliamentary Information and Research Service, Law and Government Division, 10 January 2008, <http://www2.parl.gc.ca/Content/LOP/ResearchPublications/prb0747-e.htm> (accessed February 12, 2010).

<sup>55</sup> Ibid.

<sup>56</sup> Bush, *Unified Command Plan*, 4.

<sup>57</sup> Kollien, *Toward an Arctic Strategy*, 18.

<sup>58</sup> *NORTHCOM Home Page: JTF-NCR*, (accessed January 12, 2010).

<sup>59</sup> Andrew J. Klug, *Global Warming: A National Security Issue?* (Newport, RI: Naval War College, February 13, 2006), 8.

<sup>60</sup> *Defense Radar Museum Home Page: North Warning System*, <http://www.radomes.org/museum/> (accessed February 28, 2010).

<sup>61</sup> "NOAA Prepares to Launch New Polar-Orbiting Satellite for Climate & Weather," January 22, 2009, [http://www.noaanews.noaa.gov/stories2009/20090122\\_nprime.html](http://www.noaanews.noaa.gov/stories2009/20090122_nprime.html) (accessed February 20, 2010).

<sup>62</sup> Ibid.

<sup>63</sup> "Restructuring the National Polar-orbiting Operational Environmental Satellite System," February 1, 2010, [http://npoess.noaa.gov/About/NPOESS\\_Decision\\_Fact\\_Sheet\\_20100201.pdf](http://npoess.noaa.gov/About/NPOESS_Decision_Fact_Sheet_20100201.pdf) (accessed February 20, 2010).

<sup>64</sup> Ibid. The program has encountered numerous technical and managerial challenges before and since its first major restructuring in 2006.

<sup>65</sup> Borgerson, "Arctic Meltdown," 63.

<sup>66</sup> Andrew C. Revkin, "U.S. pushes to expand Arctic icebreaker fleet," *New York Times*, August 17 2008.

<sup>67</sup> Stephen Harper, "Backgrounder - The John G. Diefenbaker National Icebreaker Project," August 28, 2008, <http://pm.gc.ca/eng/media.asp?id=2252> (accessed February 28, 2010).

<sup>68</sup> *Military Periscope.com Homepage*, <http://www.militaryperiscope.com.ezproxy.usawcpubs.org/nations/index.html>, in USAWC account (accessed February 27, 2010).

<sup>69</sup> Walter Rodgers, "War Over the Arctic? Global Warming Skeptics Distract U.S. From Security Risks," *Christian Science Monitor*, March 1 2010, <http://www.csmonitor.com/Commentary/Walter-Rodgers/2010/0302/War-over-the-Arctic-Global-warming-skeptics-distract-us-from-security-risks> (accessed March 6, 2010).

